UCLouvain

wfarm1219

2018

Biophysics applied to the drugs

3 credits	30.0 h + 15.0 h	Q1

Teacher(s)	Gallez Bernard coordinator ;Mingeot Marie-Paule ;
Language :	French
Place of the course	Bruxelles Woluwe
Prerequisites	*The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.*
Main themes	With the intersection of physics, chemistry, physiology, physiopathology and pharmacology, this course is based on the asset in these various disciplines for (i) to include/understand the physical bases of the significant processes plysiologic and pathological (ii) to integrate the mathematical, physical and physicochemical bases of techniques usually used for the characterization of molecules (drugs) and biological systems, (iii) to show how certain methodologies can be applied to the comprehension of the physicochemical properties, the structure and the operation of biological systems like to the characterization of medicamentous molecules, to become to them and of their mode of action. The course is divided into 3 parts: 1. Mathematical, physical and physicochemical bases of the methods of analysis of the biological molecules or the drugs: X-ray crystallography, optics, IR spectroscopy, UV, spectrometry mass, resonances magnetic, nephelometry...; 2. Study of the interfaces and comprehension of the processes of division, surface tension, osmosis, cellular adhesion, membrane passage; 3. Physicochemistry of the biological processes: potential of membrane and activity of the axons, dynamics of the biological fluids, cellular traffic and interactions lipid-lipids and lipid-proteins, reploiement of proteins...
Aims	1 The objective of the course is to develop in the student the capacity to approach and include/understand physics subjacent with the biological and pharmacological processes and the various methods of analysis allowing the study of these processes. The course must bring the student to a better comprehension of the structure and function of medicamentous molecules or supra-molecular systems of the alive world. - - - - *The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".*
Faculty or entity in charge	FARM

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
	WFARR100P	3		
Additionnal module in Pharmacy	WFARM100P	3		